What is claimed is:

1. An electropolishing means for an inner surface of a long tube, which applied to polish the inner surface of the long tube full of electrolyte and comprises:

a fixed magnet mechanism having plural fixed magnets, and each axial longest side of every fixed magnet being combined and formed to become the fixed magnet mechanism;

at least one electrode having a cable bounded on one end of the electrode, the cable connecting to a first power device outside of the long tube for supplying power;

at least two partitions, which being a first partition and a second partition, the first partition being placed on an opposite end of the end of electrode bounding the cable, the second partition being axially placed on another end of the fixed magnet mechanism comparing to an end of the fixed magnet mechanism with the first partition, fixed magnet mechanism being radially and averagely distributed on the two partitions;

a driving apparatus having plural outer magnets around the tube, and a relative position in the tube being fixed magnet mechanism, which connecting to a second power device for supplying power to outer electromagnets; and

an axial driven mechanism carrying both the driving apparatus and the second power device for axially moving aforesaid apparatuses and devices;

above electrode, two partitions and fixed magnet mechanism being in long tube and cooperating with driving apparatus, thus, electromagnet force driving fixed magnet in fixed magnet mechanism, therefore electrode, two partitions and fixed magnet mechanism being rotated along their same axis; axial driven mechanism simultaneously driving driving apparatus and second power device, and the means moving parallel to the axis; a whole electropolishing reaction in a long tube being completed when electrode connecting to first power device.

2. The electropolishing means for an inner surface of a long tube as cited in

claim 1, wherein the partitions are made of material without electric conductivity.

3. The electropolishing means for an inner surface of a long tube as cited in claim 1, wherein plural slots are on an outer edge of partitions, the slots make electrolyte flow close to inner surface more fluently.

4. The electropolishing means for an inner surface of a long tube as cited in claim 1, wherein the partitions have many holes as meshes for fluently introducing electrolyte.

5. The electropolishing means for an inner surface of a long tube as cited in claim 1, wherein dimensions of the partitions cannot be enlarged, driving apparatus and fixed magnet mechanism are to form a magnetic levitation effect, which means using magnetic repulsiveness and magnetic attraction to keep away from the partitions and inner surface and avoid the eccentric situation.

6. The electropolishing means for an inner surface of a long tube as cited in claim 1, wherein a screw mechanism is designed on an end of second partition opposite to the end of second partition with fixed magnet mechanism to fast remove air bulbs generated from electropolishing reaction.

7. The electropolishing means for an inner surface of a long tube as cited in claim 6, wherein the screw mechanism is one of the following: propeller, slideway.

8. The electropolishing means for an inner surface of a long tube as cited in claim 1, wherein driving apparatus is an electromagnet apparatus, when driving apparatus connects to second power device, plural outer electromagnets are then driven, and plural fixed magnets in fixed magnet mechanism are in rotation as well.

9. The electropolishing means for an inner surface of a long tube as cited in claim 1, wherein driving apparatus is a rotational mechanism, when driving apparatus connects to second power device, plural outer electromagnets in driving apparatus are driven via direct mechanical transmission, and plural fixed magnets in fixed magnet mechanism are in rotation as well.

10. An electropolishing/grinding means for an inner surface of a long tube, which applied to polish the inner surface of the long tube full of electrolyte and comprises:

a fixed magnet mechanism having plural fixed magnets, and each axial longest side of every fixed magnet being combined and formed to become the fixed magnet mechanism;

at least one electrode having a cable bounded on one end of the electrode, the cable connecting to a first power device outside of the long tube for supplying power;

at least two partitions, which being a first partition and a second partition, the first partition being placed on an opposite end of the end of electrode bounding the cable, the second partition being axially placed on another end of the fixed magnet mechanism comparing to an end of the fixed magnet mechanism with the first partition, fixed magnet mechanism being radially and averagely distributed on the two partitions, plural closed fillisters being placed on a radial end of the second partition, and each of the closed fillister having a flexible element and a protruding object, the protruding object protruding outside the radial end and supporting an abrasive, and the abrasive continuously supporting the inner surface of tube for grinding;

a driving apparatus having plural outer magnets around the tube, and a relative position in the tube being fixed magnet mechanism, which connecting to a second power device for supplying power to outer electromagnets; and

an axial driven mechanism carrying both the driving apparatus and the second power device for axially moving aforesaid apparatuses and devices;

above electrode, two partitions and fixed magnet mechanism being in long tube and cooperating with driving apparatus, thus, electromagnet force driving fixed magnet in fixed magnet mechanism, therefore electrode, two partitions and fixed magnet mechanism being rotated along their same axis; axial driven mechanism simultaneously driving driving apparatus and second power device, and the means moving parallel to the axis; a whole

electropolishing/grinding reaction in a long tube being completed when electrode connecting to first power device.

11. The electropolishing/grinding means for an inner surface of a long tube as cited in claim 10, wherein plural slots are on an outer edge of the first partition, the slots make electrolyte flow close to inner surface more fluently.

12. The electropolishing/grinding means for an inner surface of a long tube as cited in claim 10, wherein the first partition has many holes as meshes for fluently introducing electrolyte.

13. The electropolishing/grinding means for an inner surface of a long tube as cited in claim 10, wherein dimensions of the first partition cannot be enlarged, driving apparatus and fixed magnet mechanism are to form a magnetic levitation effect, which means using magnetic repulsiveness and magnetic attraction to keep away from the partitions and inner surface and avoid the eccentric situation.

14. The electropolishing/grinding means for an inner surface of a long tube as cited in claim 10, wherein the flexible element is a spring.

15. The electropolishing/grinding means for an inner surface of a long tube as cited in claim 10, wherein the protruding object is a thimble.

16. The electropolishing/grinding means for an inner surface of a long tube as cited in claim 10, wherein the abrasive is made of Al_2O_3.

17. The electropolishing/grinding means for an inner surface of a long tube as cited in claim 10, wherein driving apparatus is an electromagnet apparatus, when driving apparatus connects to second power device, plural outer electromagnets are then driven, and plural fixed magnets in fixed magnet mechanism are in rotation as well.

18. The electropolishing/grinding means for an inner surface of a long tube as cited in claim 10, wherein driving apparatus is a rotational mechanism, when driving apparatus connects to second power device, plural outer electromagnets in driving apparatus are driven via direct mechanical transmission, and plural fixed magnets in fixed magnet mechanism are in rotation as well.